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August 21, 2000

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, SW
Washington DC 20554

Re: Service Rules for the 746-764 and 776-794 MHz Bands and Revisions to Part 27 of the Commission's Rules – WT Docket No. 99-168

Dear Ms. Salas:

Pursuant to Section 1.1206(b)(1) and (2) of the Commission's Rules, I am providing notice of an ex parte meeting held on August 18, 2000 with members of the Commission's Office of Engineering and Technology staff and representatives of ArrayComm and Sony Corporation of America in the above-entitled matter.

I am enclosing a copy of the presentation made to the FCC staff at this meeting for inclusion in the public record in WT Docket No. 99-168.

In addition, there was a discussion of possible spectrum alternatives for TDD operation. While these centered on spectrum that the Federal Government had transferred to the FCC for reallocation such as 1390-1395, 1670-1675 and 2385-2390, we also raised 2110-2150, 2390-2400 and part of 1910-1930 because of its compatibility with ITU's allocation for TDD.

ArrayComm expressed interest in varying degrees in all these bands.

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Please direct any questions regarding this matter to my attention.

Sincerely,

Leonard S. Kolsky

Leonard S. Kolsky

cc: Julius Knapp (w/o attachment)
Stanley Wiggins (w/o attachment)
Alliance Law Group (w/o attachment)

Fostering Coexistence: Opportunities and Challenges

Presented to the FCC
17 August 2000

Marc Goldburg
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ArrayComm

Outline

- TDD issues in the 746 MHz rulemaking
- Analysis and operational practices
- Fostering coexistence

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TDD and the 746 MHz Band

- TDD community focused on two aspects of the proposed rules
  - ◆that power limits were tied to band segments
  - ◆that internal OOBE limits were much more lax than those adopted to ensure unimpeded public safety operations in adjacent bands
- Commission responded by
  - ◆tieing power limits to equipment type
  - ◆retaining internal OOBE limits while promising to take action to minimize interference on a case-by-case basis

TDD and the 746 MHz Band

- Tieing power limits to equipment type reduced the "pairing penalty" for potential TDD operators
- Retaining PCS-like internal OOBE limits continues to place successful coexistence in jeopardy
  - ◆even with Commission's promise to take action, there is still significant real and perceived risk
- The playing field continues to be far from level
  - ◆existing technologies and practices will be favored

Examining Coexistence

- Variety of studies examining coexistence of systems (FDD/FDD, FDD/TDD, TDD/TDD) with similar deployment models
  - siting, antenna types, channel bandwidths, power, etc.
- All identify OOBE scenarios with significant interference-induced compromises in
  - coverage
  - capacity
  - service quality

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Reality of Cellular OOBE Practices

- 43 + 10 log P rule only works with "gentleman's agreements" among USA cellular operators to
  - all deploy FDD
  - all use, e.g., the high portion of their band for downlink
  - all have substantial transmit rolloff between the up- and downlink bands
- Yielding an additional 20 dB in practice, effectively a 63 + 10 log P rule
  - similar to Commission's proposed rules to protect public safety at 746 MHz (64 + 10 log P for mobile, 76 + 10 log P for base)

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Fostering Coexistence

- ArrayComm's proposal for internal OOBE limits
  - 64 + 10 log P mobile (1 MHz measurement BW)
  - 70 + 10 log P base (1 MHz measurement BW)
  - consistent with operating practices and other expert analyses including the Commission's (e.g. 700 MHz public safety)

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Fostering Coexistence (cont'd)

- A balanced response to the desire for coexistence
  - economically and technically feasible (cf. PCS-1900)
  - less than 2 MHz of guard band per allocation
  - reduces interference to manageable levels
  - establishes a viable baseline for engineering solutions

ArrayComm

Summary

- Most recent MOO at 746 did not create a truly level playing field for coexistence between TDD and FDD
- Coexistence will be an issue in many new allocations, e.g. 2110-2150
  - FDD/FDD, FDD/TDD and TDD/TDD
  - TDD will be increasingly attractive as wireless data applications proliferate
- An improved OOBE standard should be adopted to facilitate macro/microcellular FDD/FDD, FDD/TDD and TDD/TDD coexistence
- Our OOBE specifications are economically and technically feasible
- Commission should issue an appropriate NPRM (ASAP)